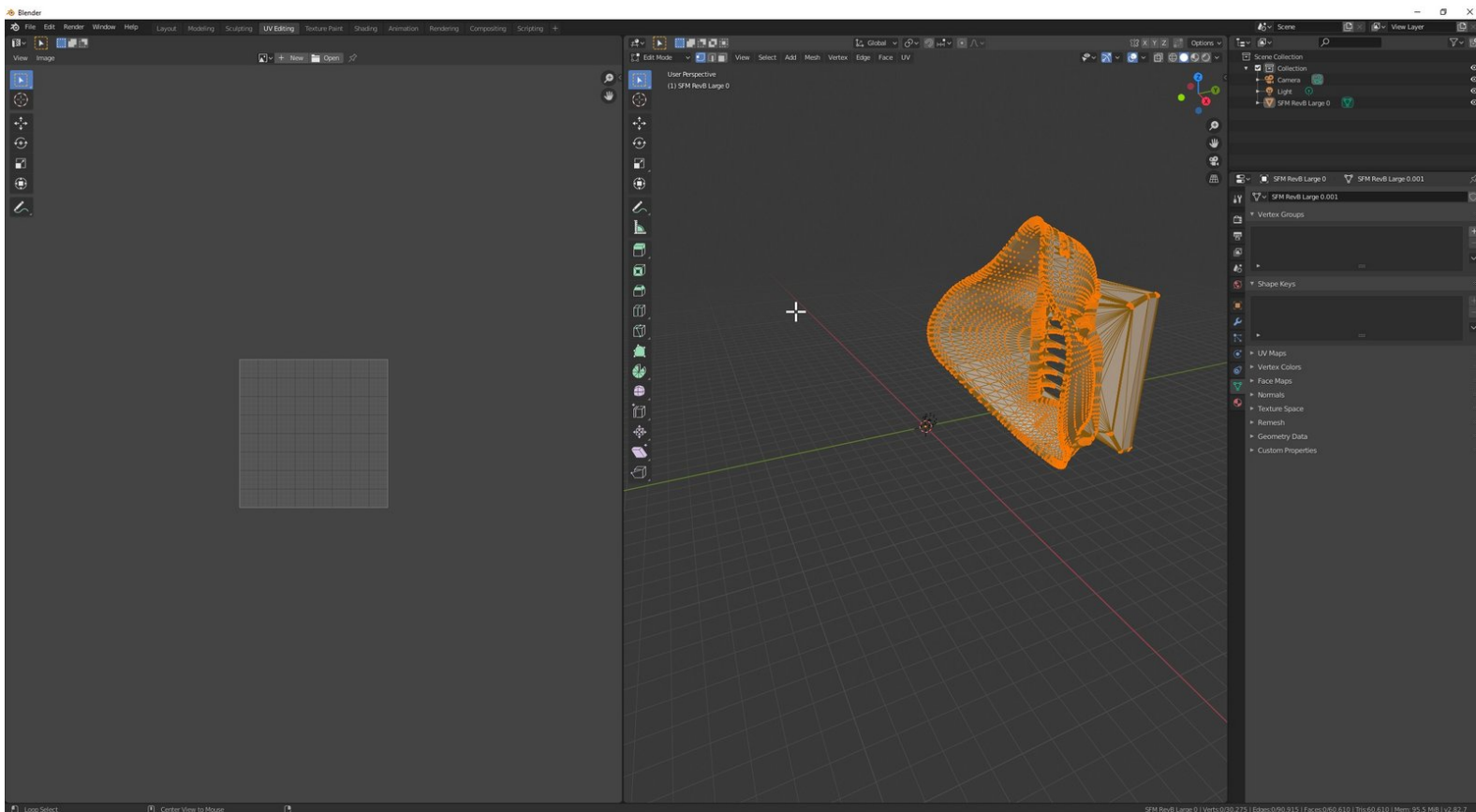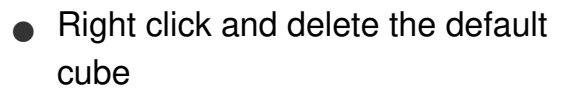# Projecting an Image through a Part for Multi-Color Printing
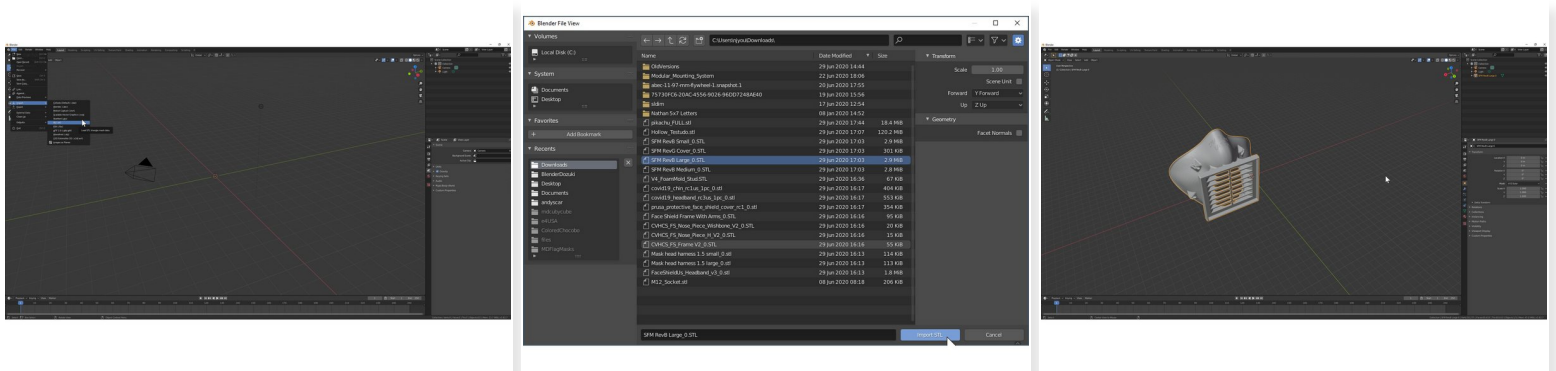
This guide will step through how to project an image through an imported STL file.

Written By: Nathan Young

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Step 1 — Delete the default cube

- Right click and delete the default cube

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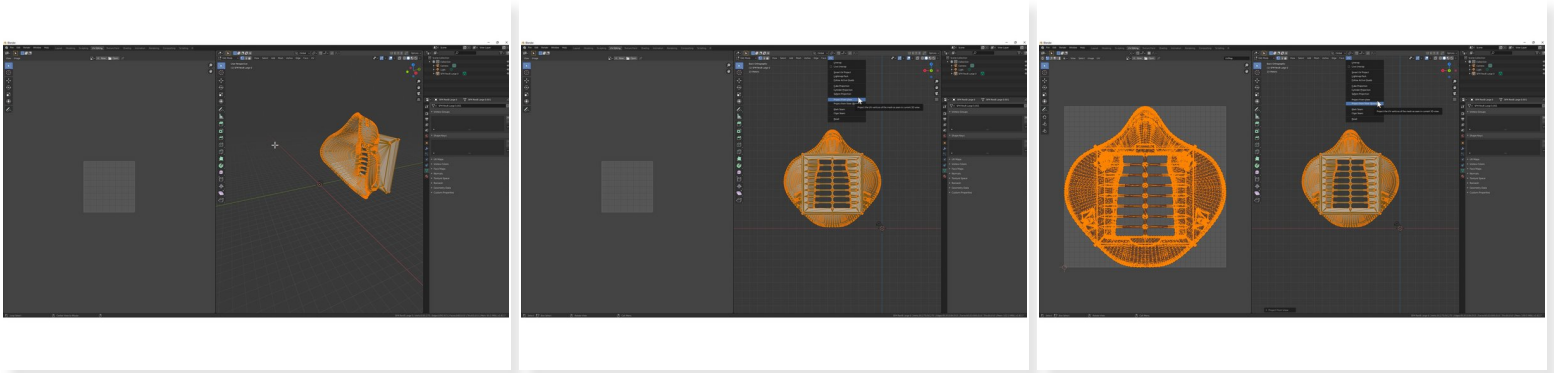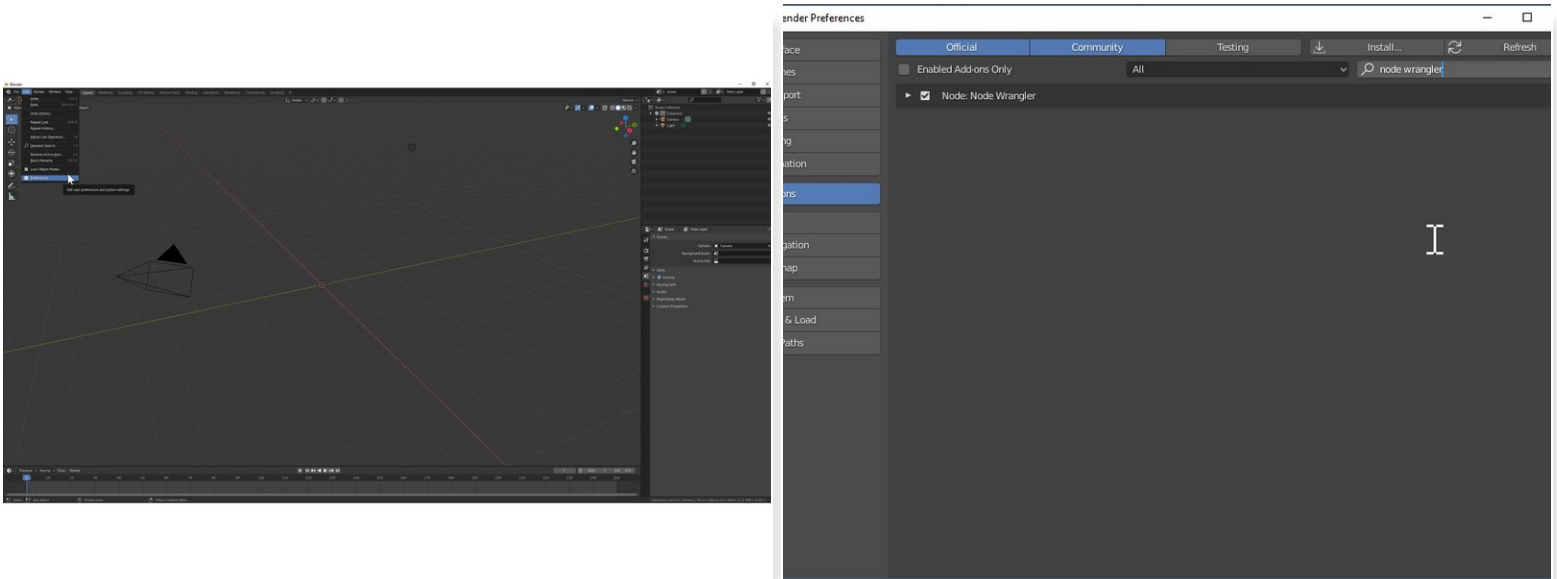
Step 2 — Import your .stl

- Go to File > Import > Stl (.stl)

- Select the file you would like to color, then click "Import"

- Zoom out (scroll wheel) to see your model in the workspace

- ⓘ Scroll wheel zooms in and out

- ⓘ Middle mouse orbits

- ⓘ Shift + Middle mouse pans

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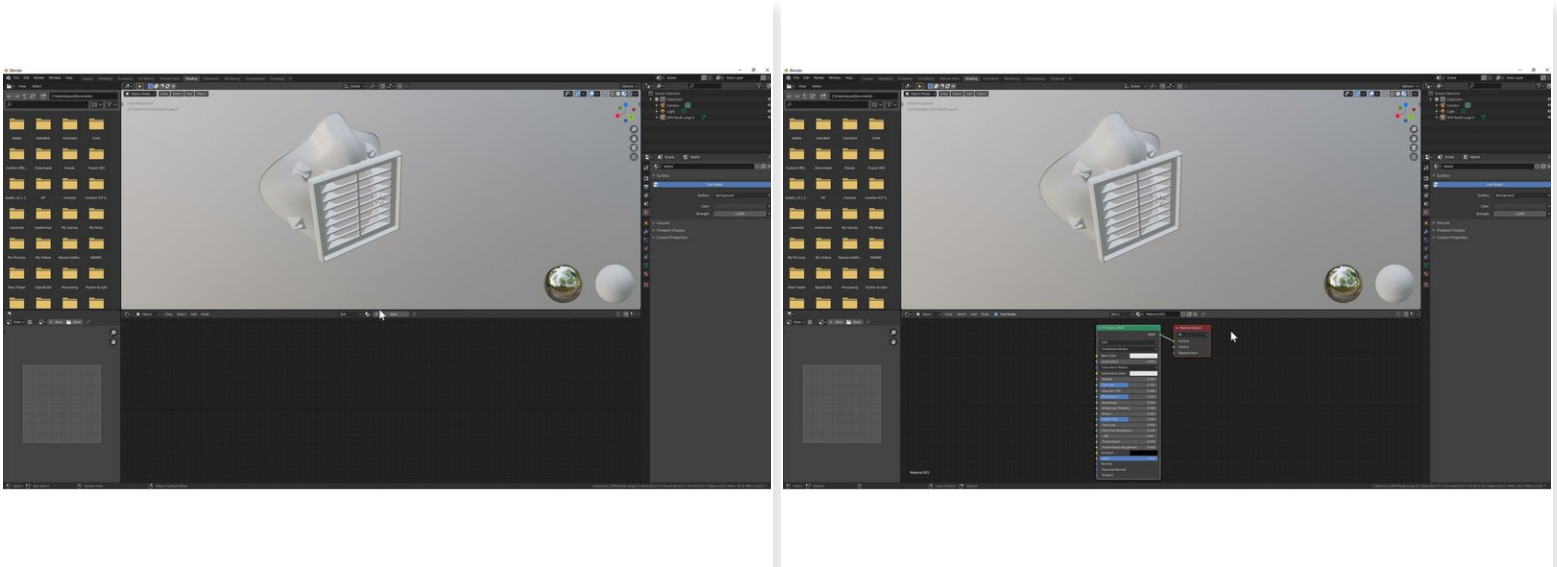
Step 3 — UV Unwrap

- Select the UV Editing tab

- Click on a preset view from the desired direction

- If object becomes deselected press the "A" key to select all again

- Select UV > Project from View (Bounds)

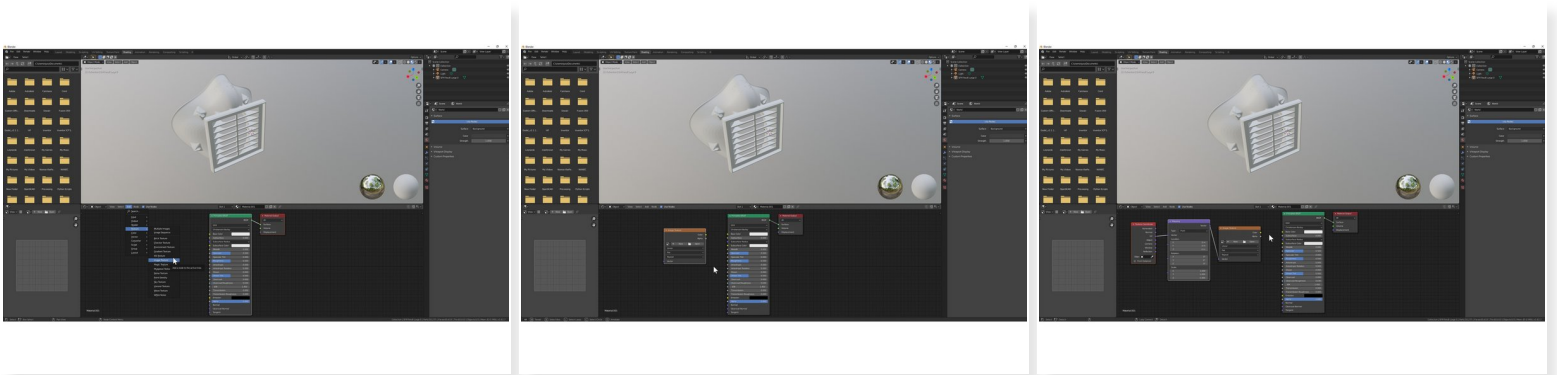- (i) To learn about UV projection and other methods check out the Blender page here

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Step 4 — Enable Node Wrangler

- Go to Edit > Preferences

- Under Add-ons search for "Node Wrangler" and enable it

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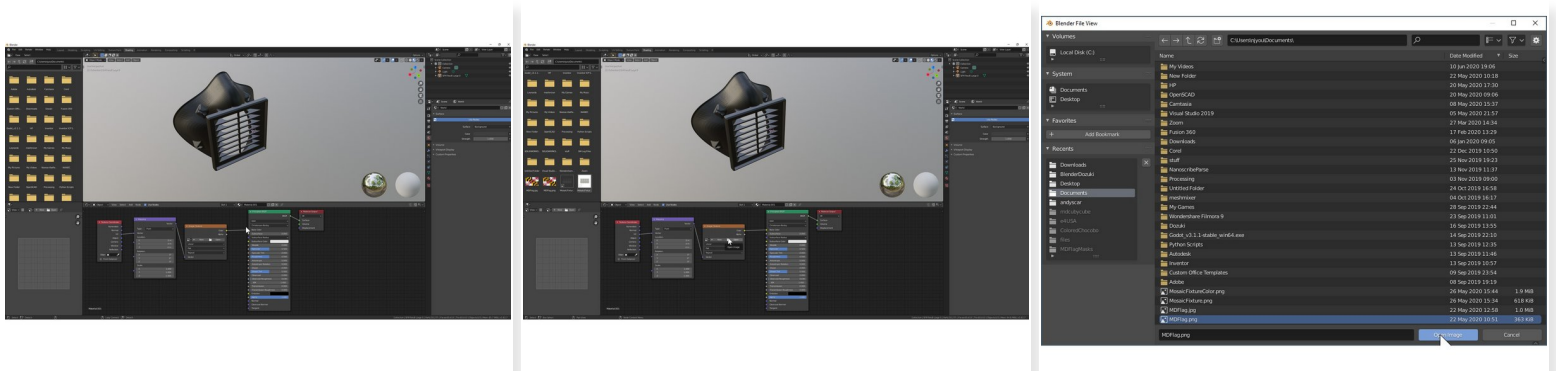
Step 5 — Create a New Material

- Go to the Shading Tab

- Select "New"

Step 6 — Add Nodes

- Select Add > Texture > Image Texture

- Place to the left of the Principled BSDF Node

- With the Image Texture node selected press "Ctrl + T" to add the Texture Coordinate and Mapping nodes

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Step 7 — Apply Image

- Click the yellow dot (Color) on the Image Texture node and drag over to the yellow dot (Base Color) on the Principled BSDF node

- On the Image Texture node click "Open"

# Step 8 — Adjust Image Settings (Optional)
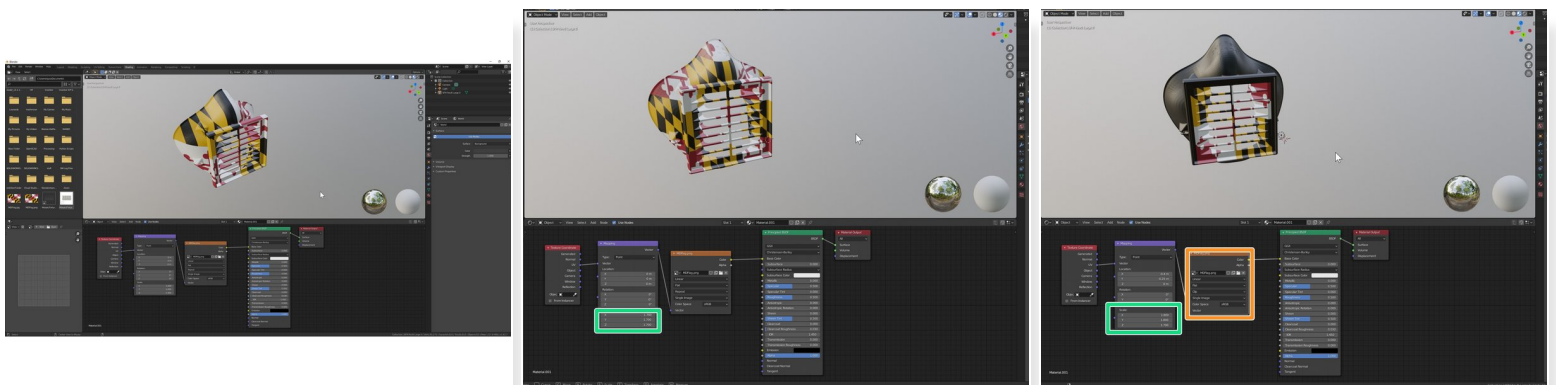
- Increase the X,Y,Z scale values of the Mapping Node to shrink the image on the object.

- (i) Learn more about the [Mapping Node](#).

- To change the projection or extension methods use the Image Texture Node.

- (i) Learn more about the [Image Texture Node](#).

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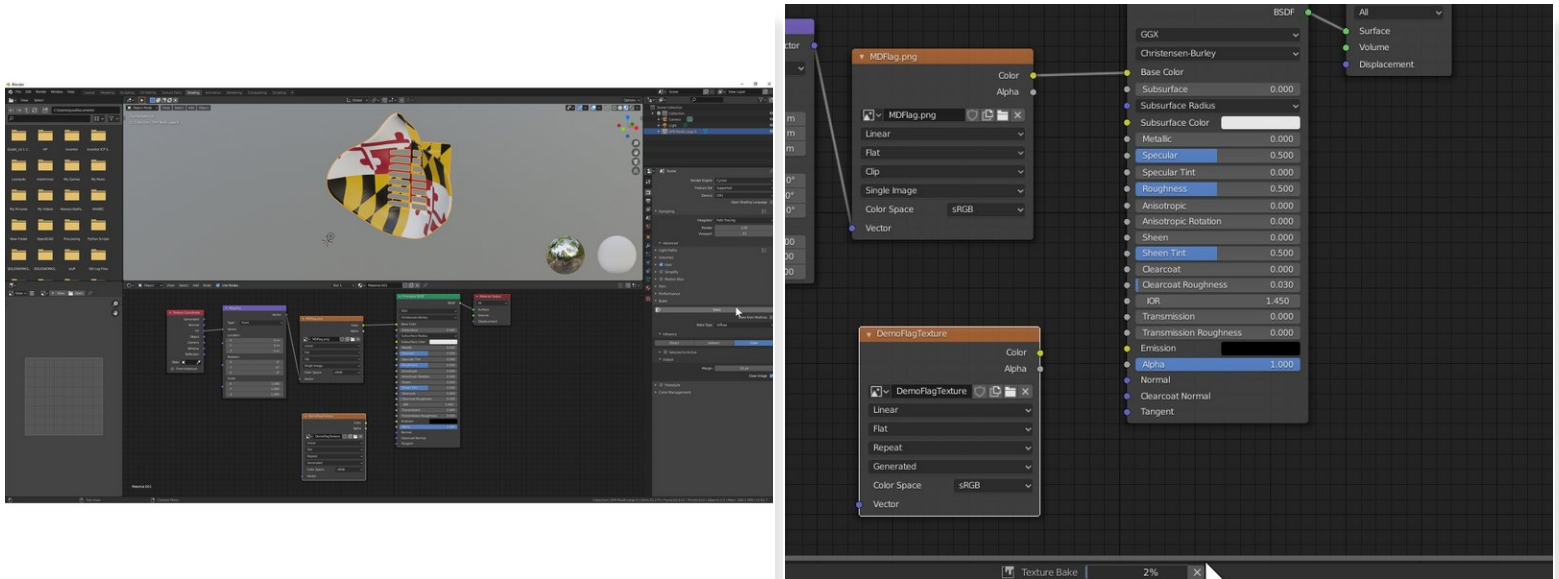## Step 9 — Add Image Texture to Bake
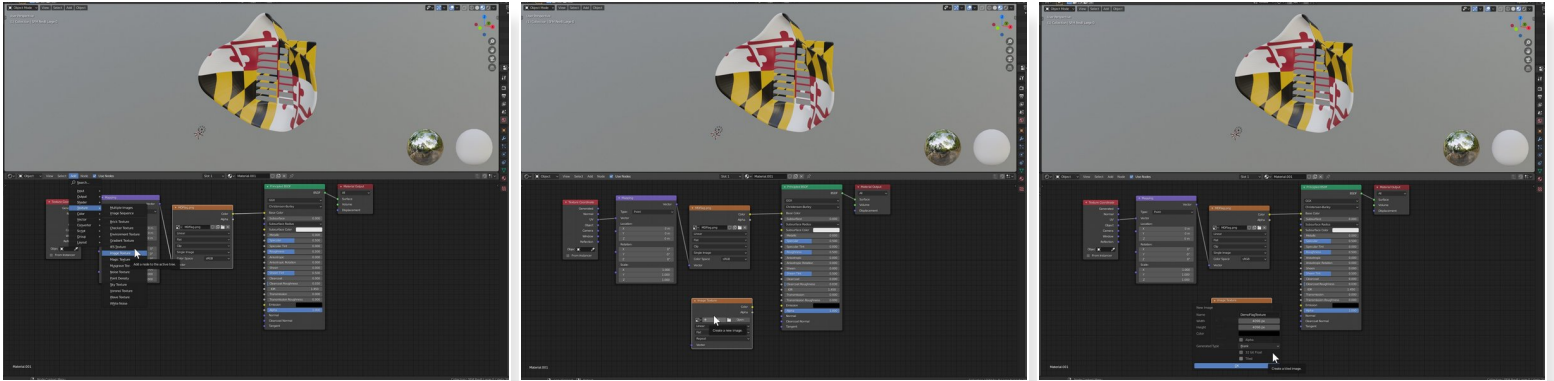
- Click Add > Texture > Image Texture and place it below the existing Image Texture.

- On the Image Texture Node click the "+" to create a new image.

- Name the texture.

- Adjust the Width and Height, 4096 is a good starting point.

- Turn off Alpha and select OK.

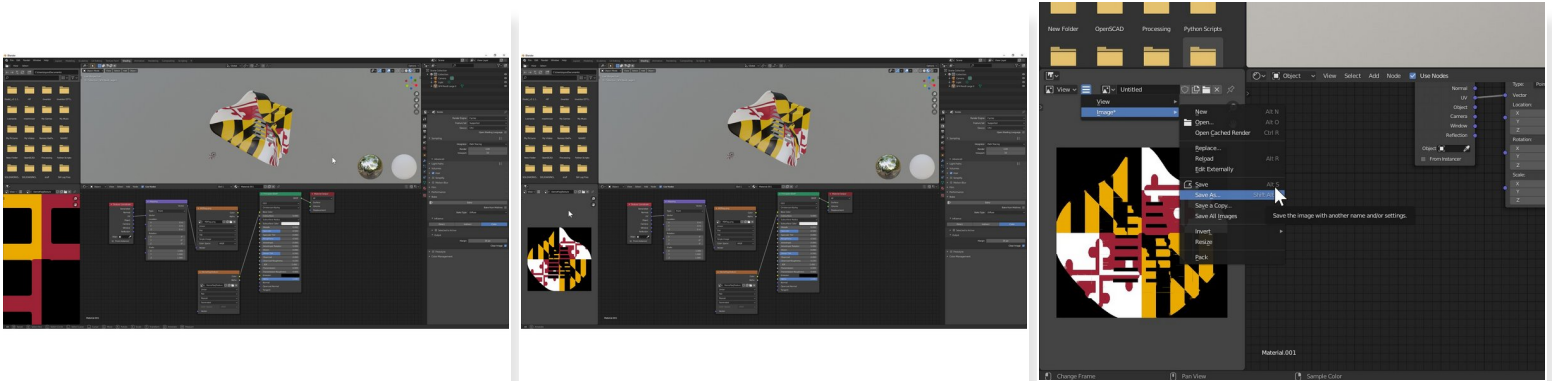## Step 10 — Adjust Bake Settings
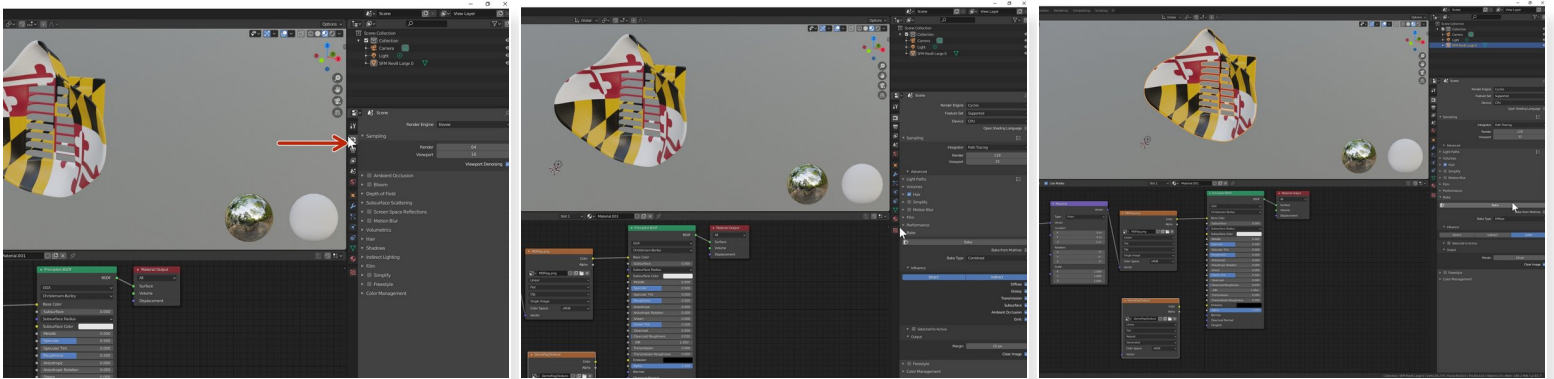
- Navigate to the Render Tab.

- Change the Render Engine to Cycles.

- Open the Bake menu.

- Change the Bake Type to "Diffuse".

- Unselect "Direct" and "Indirect" so that only "Color" is highlighted.

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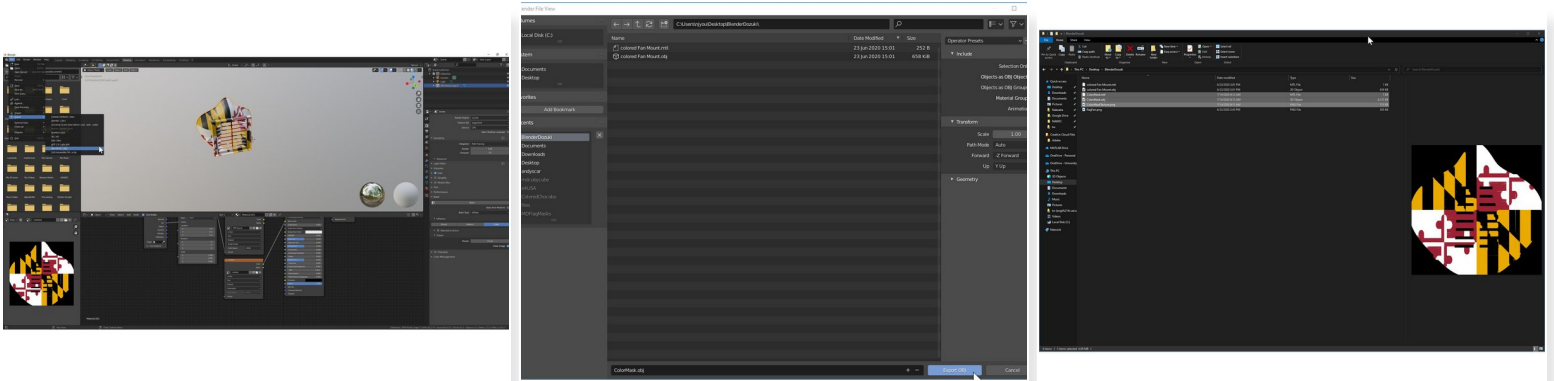
Step 11 — Bake the Texture

- Select the Model (orange highlight) and the new Image Texture Node (white outline).

- Click "Bake".

- The render time will vary based on your computer and the image size you created.

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Step 12 — Check your Texture and Save

- Hook up your new texture to the Principle BSDF Node.

- If the texture looks very pixelated return to step 9 and increase the image size.

- Click on the Hamburger Menu > Image > Save As

- Save the image in the same folder that you will save the exported model.

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Step 13 — Exporting OBJ

- Click File > Export > Wavefront (.obj)

- Make sure "Material Groups" is checked.

- Navigate to the folder where your Image Texture is saved.

- Name your file and click Export OBJ.

- ⦿ Other programs will expect the .obj, .mtl, and texture image to be in the same folder.

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